

MULTIPLEXED MEDICAL DEVICE LEAD WITH STANDARD HEADER**Abstract of the Disclosure**

Systems and methods for providing a cardiac stimulus device lead with additional sensing capabilities without violating header standards is disclosed. A cardiac stimulus device lead is provided according to one aspect. According to one embodiment, the lead includes a first conductor and a second conductor for transmitting an electrical pulse from a pulse generator. The lead further includes a multiplexer switch, a first electrode, a second electrode, a sensing circuit and a controller. The first conductor is connected to the multiplexer switch. A first terminal of the multiplexer switch is connected to the first electrode and a second terminal of the multiplexer switch is connected to the sensing circuit. The second conductor is connected to the second electrode. The controller is connected to the multiplexer switch, and is adapted to selectively connect the first conductor to one of the first electrode and the sensing circuit.

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